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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,588	05/26/2005	Alma Leilani Marrero Terrero	4082.001	9236

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EXAMINER

MCCLENDON, SANZA L

ART UNIT	PAPER NUMBER
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1711

MAIL DATE	DELIVERY MODE
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09/06/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/536,588	Applicant(s) MARRERO TERRERO ET AL.	
	Examiner Sanza L. McClendon	Art Unit 1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>6/06</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 3-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 3, it is unclear if applicant is preparing dendrimers and/or dendrons from heterocyclic substructures or if applicant is preparing dendrimers and/or dendrons that have heterocyclic substructures within said dendrimers and/or dendrons.

It is unclear if applicant is intending to make 3, 4, 5, 6, 7, and 8 and up member ring heterocyclic compounds? Clarification is requested.

It is unclear in claim 3, what applicant is intending substructure to mean. Is it a dendritic arm? Is it a generation of the dendritic polymer? Does it mean reaction product, i.e., reaction product of a cyclic iminoether with an acid? Is it a pendent group? Clarification is requested.

It is unclear what applicant intends for non-classical route to be. Does applicant mean that the process under microwaves is non-classical? Has applicant found other routes besides the classical routes to prepare the dendrimers, since the routes, for instance, in claim 5 appear to be classic routes for preparing heterocyclics?

In claim 3, applicant has a limitation for a heterocyclic substructure, are these nitrogen, oxygen, sulfur, and the like heterocyclics. Do the

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heterocyclics have more than one hetero- compound? If so are they the same or different heteroatoms? Clarification is requested.

In claim 10, applicant claims a basic substructure. Does applicant intend for this basic substructure to be the heterocyclic substructure of claim 3? Or is the basic substructure intended to be an amine type substructure? Or does basic refer to the pH of said substructure verses an acid substructure? Clarification is requested.

Note: Because the claims are found to be indefinite it is difficult to search for applicant's invention. However, the examiner has supplied at least two rejections below on what the examiner "thinks" applicant is claiming as his invention.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of

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the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Wang et al (6,639,032).

Wang et al sets forth highly branched polymers. Wang et al sets forth the monomers, such as cyclic imino ethers can be used to produce said hyperbranched polymers--see column 7, line 16. Wherein it is disclosed that microwave radiation can be used to activate the reaction--column 7, line 50. This is deemed to anticipate claim 1--see 112, 2nd paragraph rejection above.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brinkhuis (2003/0144457) in view of Hirose et al (JP10-036294, herein after JP'294).

Brinkhuis discloses methods of making hyperbranched esteroxazline polymers. Said polymers are obtained by reacting an A-functional compound and a B-functional compounds. The chemistry is based on highly selective first step in which a primary amine reacts with one or more diacids or compounds capable of reacting as if one or more diacids are present. The process is disclosed as a one step process by reacting a cyclic anhydride or

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diacid and Tris-A (tris hydroxymethylmethyl methanamine), removing water through distillation. Said reaction can take place with or without an auxiliary solvent--see [0031]. Brinkhuis et al appears to teach condensation, esterification, cyclization and amidation in a one-step process. Brinkhuis et al does not expressly teach the use of microwave radiation.

However JP'294 sets forth production of amides, imides, and esters by condensation using microwave heating, having frequencies from 2000-3000 MHz and wattages from 200 to 500 W. JP'294 sets forth the use of microwaves allows for the elimination of conventional systems/apparatus needed in condensation reactions such as heating elements, distillation elements (separators and condenser), as well as, allowing for faster reaction times.

The claims would have been obvious to a skilled artisan because one of ordinary skill in the art would have been motivated to combine the above reference to achieve the claimed invention and that there would be a reasonable expectation of success since JP'294 sets forth faster and less taxing (i.e., separate equipment, such as condensers, rotary evaporators, heating mantles and the like) ways to perform condensation, esterification, and amidation.

Conclusion

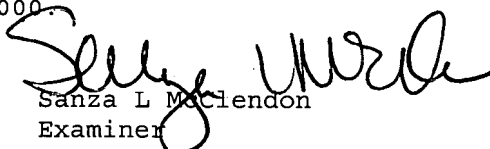
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanza L. McClendon whose telephone number is (571) 272-1074. The examiner can normally be reached on Monday through Friday 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The

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fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Sanza L. MacLendon
Examiner
Art Unit 1711

SMC